Alaska's Economy: How should we interpret the data?

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10/23/2017

Outline

What about now? Alaska's situation in numbers

Alaska's Fiscal and Economic Situtation by the numbers

	Budget and economy				
	2013	**2014**	**2015**	**2016**	**2017**
Unrestricted GF revenues	6.9	5.39	2.25	1.53	1.64
Wage and Salary Employment	335,366	336,640	338,262	332,138	324,498

Alaska's spending

Condensed Budget Comparison FY2015, FY2017, FY2018

	Unrestricted General Fund			Unrestricted General Fund			
	FY2015 Management Plan	FY2017 Management Plan	FY2018 Enacted	Difference Between FY2015 MP and FY2018 Enacted		Difference Between FY2017 MP and FY2018 Enacted	
Agency Operations	$ 2,283.4	$ 1,899.0	$ 1,765.2	$ (518.2)	-22.7%	$ (133.8)	-7.0%
K-12 and Other Education Formula	$ 1,351.5	$ 1,255.1	$ 1,267.6	$ (83.9)	-6.2%	$ 12.5	1.0%
Medicaid Formula	$ 693.0	$ 580.2	$ 564.2	$ (128.8)	-18.6%	$ (15.9)	-2.7%
Other Formula	$ 175.1	$ 144.0	$ 135.6	$ (39.5)	-22.6%	$ (8.4)	-5.8%
Total Agency	**$ 4,503.0**	**$ 3,878.3**	**$ 3,732.6**	**$ (770.4)**	**-17.1%**	**$ (145.7)**	**-3.8%**
Tax Credits, Debt, Retirement, Etc.	$ 979.9	$ 384.1	$ 455.6	$ (524.3)	-53.5%	$ 71.5	18.6%
Operating Without Dividend	**$ 5,483.0**	**$ 4,262.4**	**$ 4,188.2**	**$ (1,294.7)**	**-23.6%**	**$ (74.1)**	**-1.7%**
Dividend	$ 1,342.0	$ 695.7	$ 760.0	$ (582.0)	-43.4%	$ 64.4	9.3%
Total Operating	**$ 6,825.0**	**$ 4,958.0**	**$ 4,948.2**	**$ (1,876.7)**	**-27.5%**	**$ (9.8)**	**-0.2%**

Conservative estimates

- Revenues for FY 2018 are supposed to be around 1.8 billion dollars
- Using the expenditure amounts from the previous slide, which are conservative, and a 115 million capital budget means the state has a minimum of 2.5 billion dollars in deficit.
- This does not account for the need to pay a dividend of around 700 million dollars.

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Dimensions of change

- Alaska has considerably changed along almost all dimensions.
- Quality of life has improved significantly.
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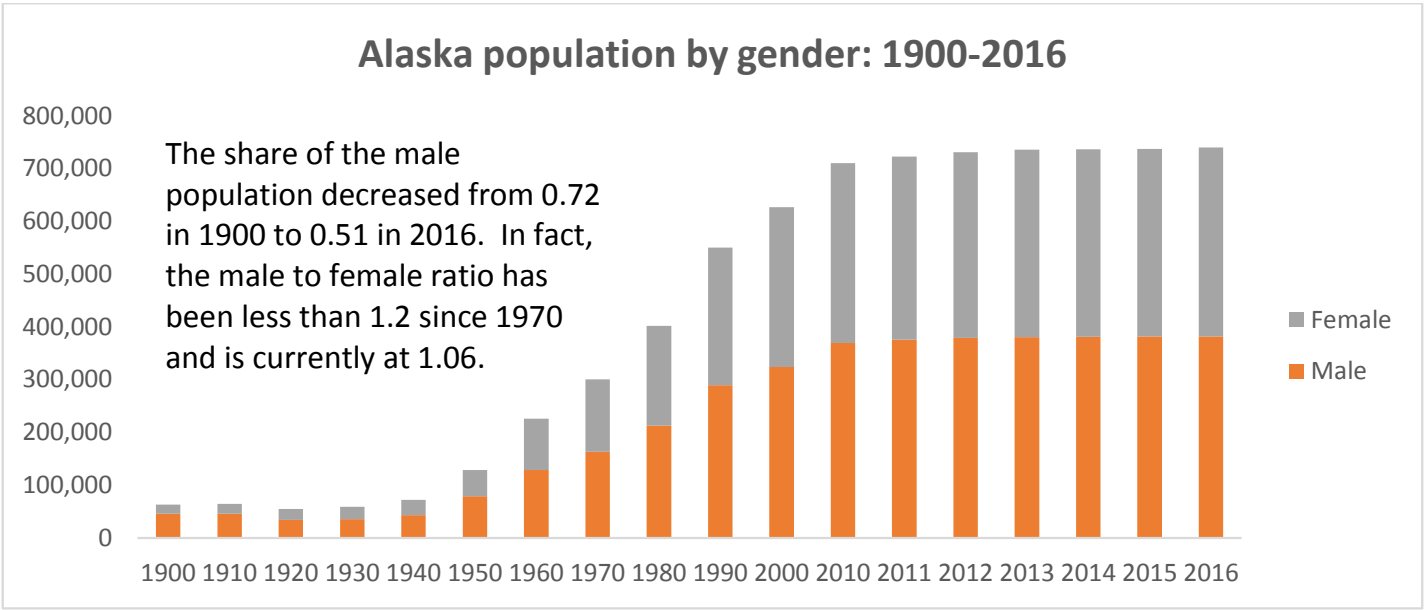
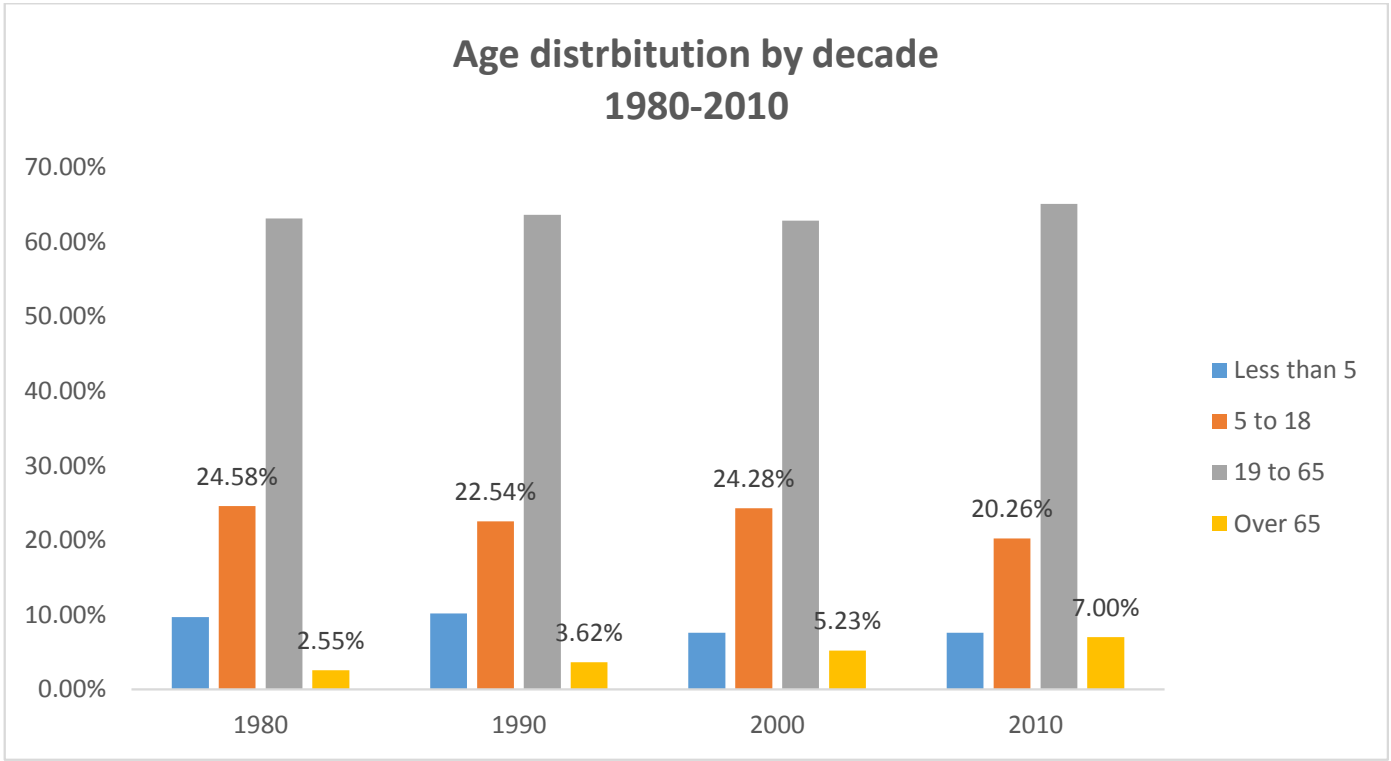
Does Alaska still have considerably more men?

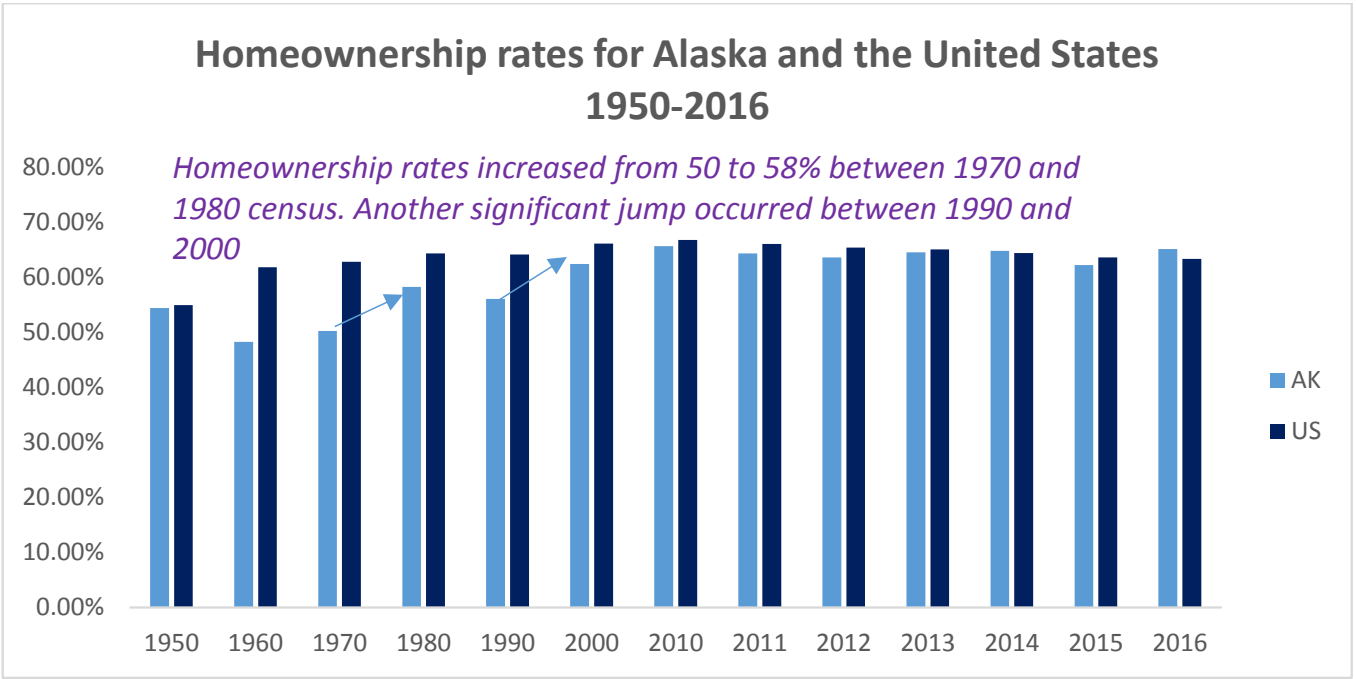


The share of the male population decreased from 0.72 in 1900 to 0.51 in 2016. In fact, the male to female ratio has been less than 1.2 since 1970 and is currently at 1.06.

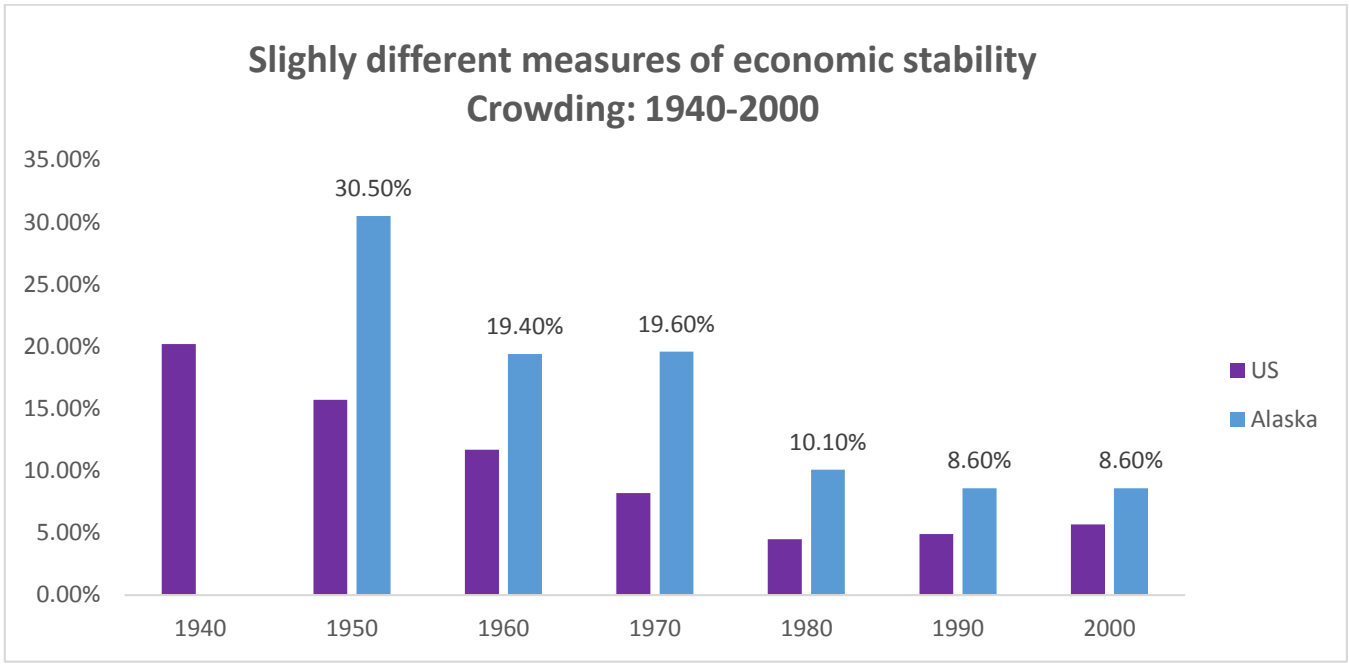
What about the age distribution?



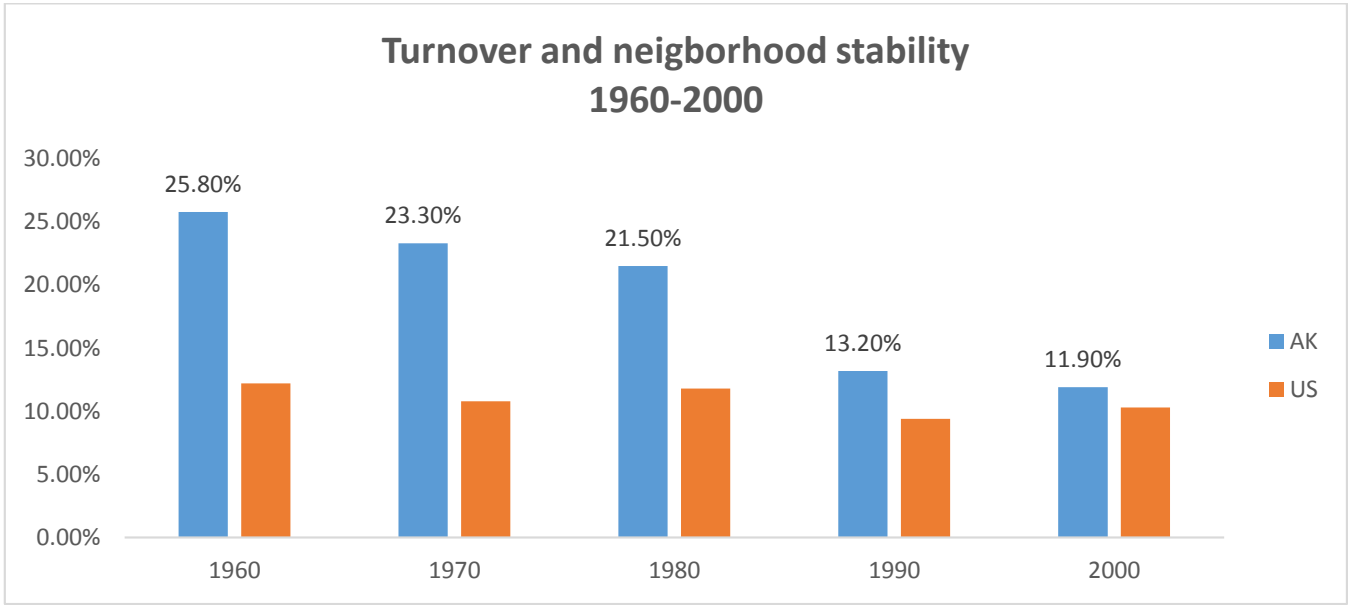
Alaska evolution: homeownership



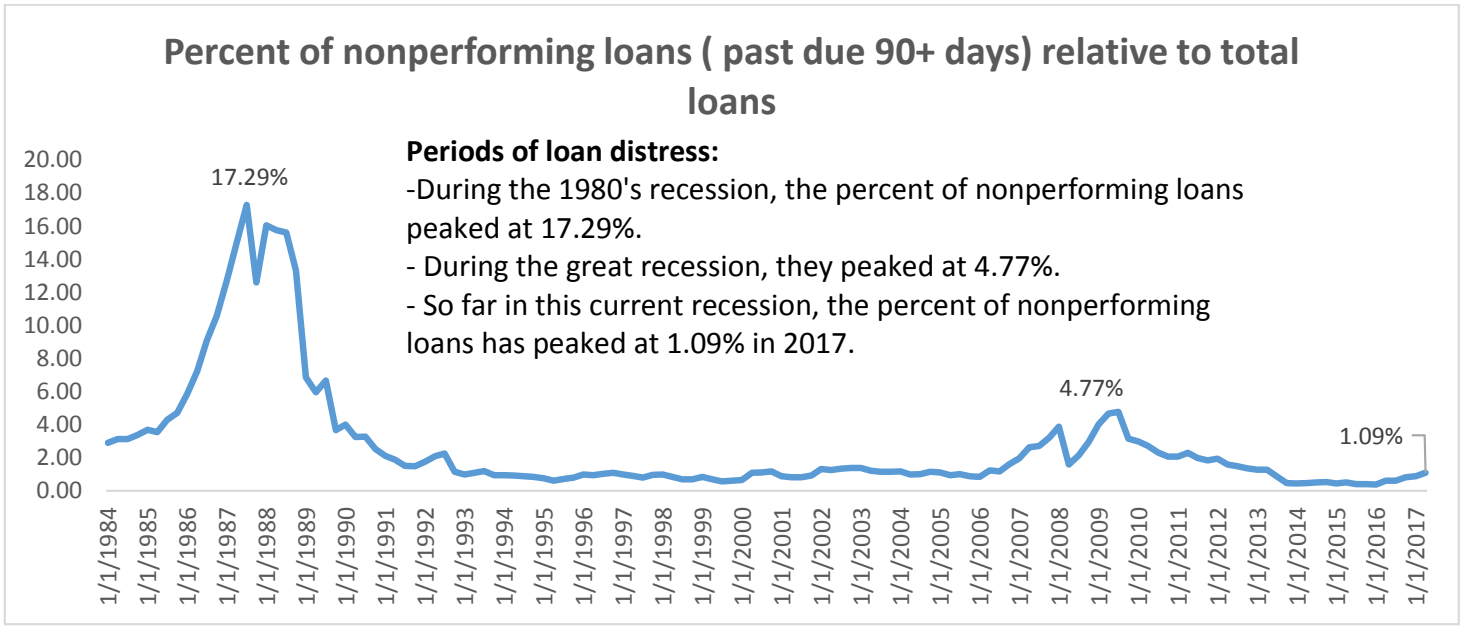
Alaska evolution: crowding



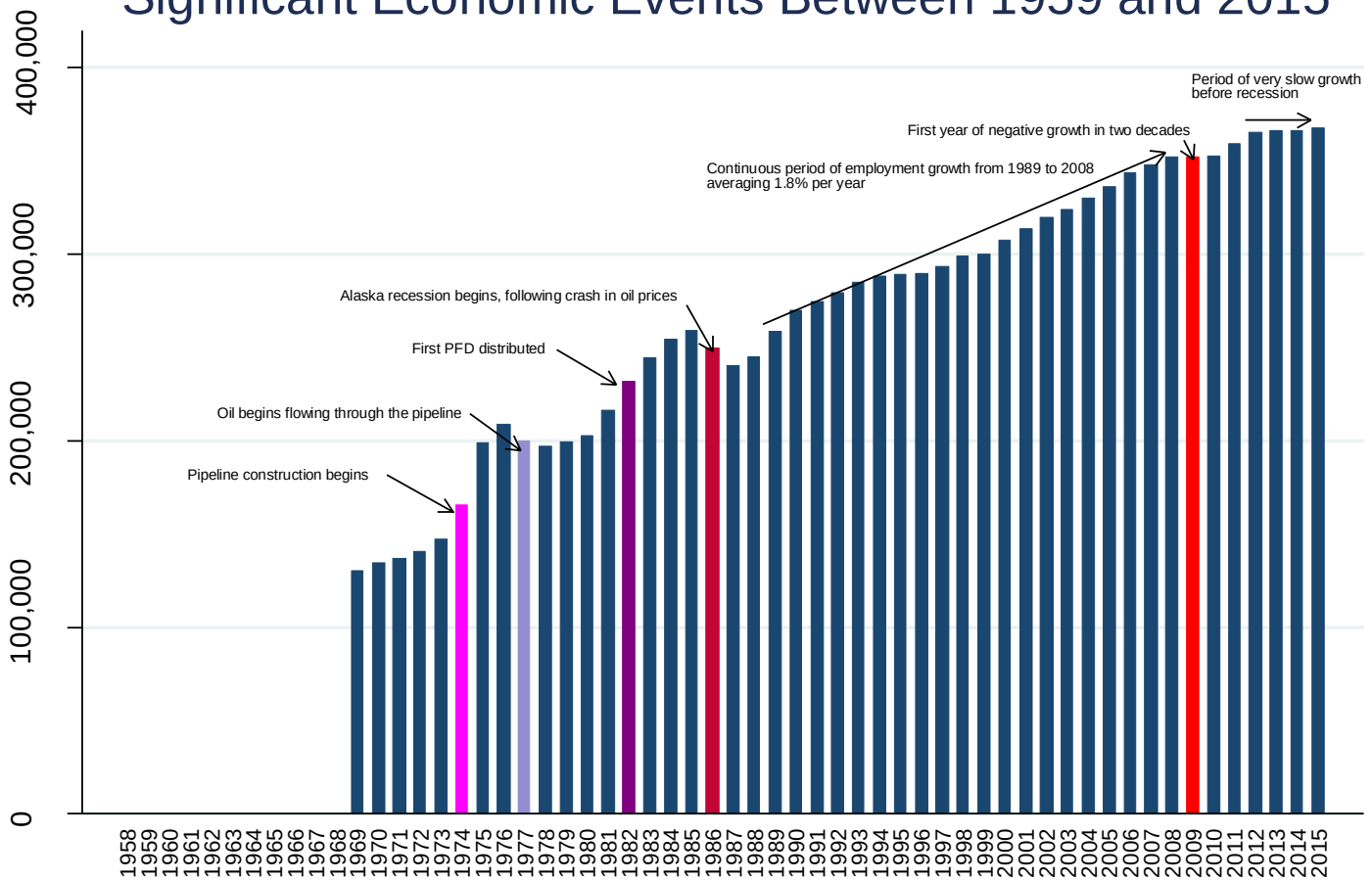
Alaska evolution: neighborhood stability



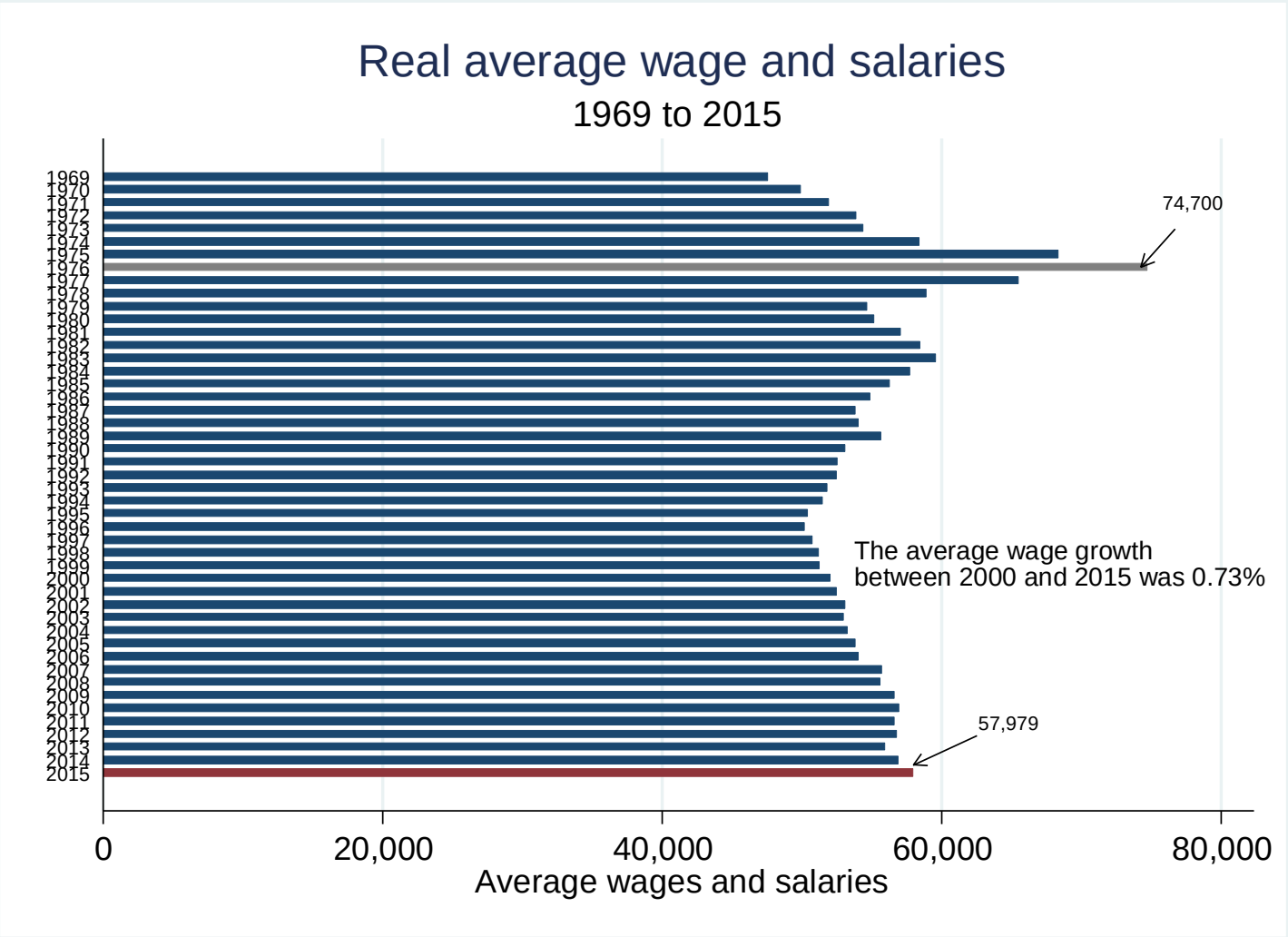
Nonperforming loans: Now and Then



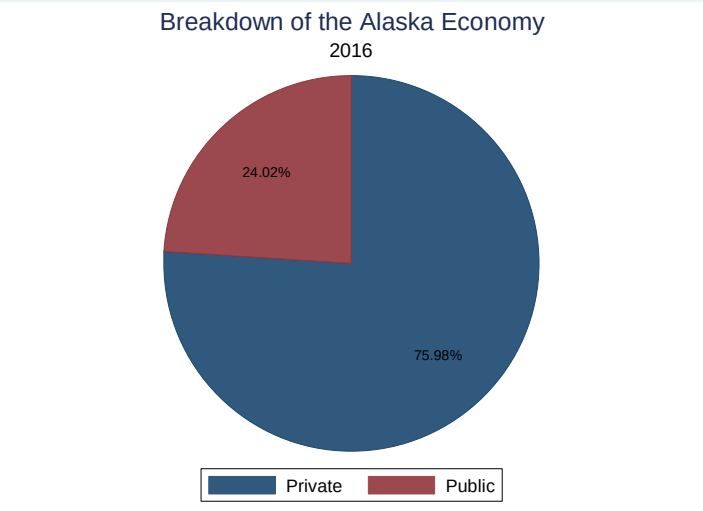
Major events

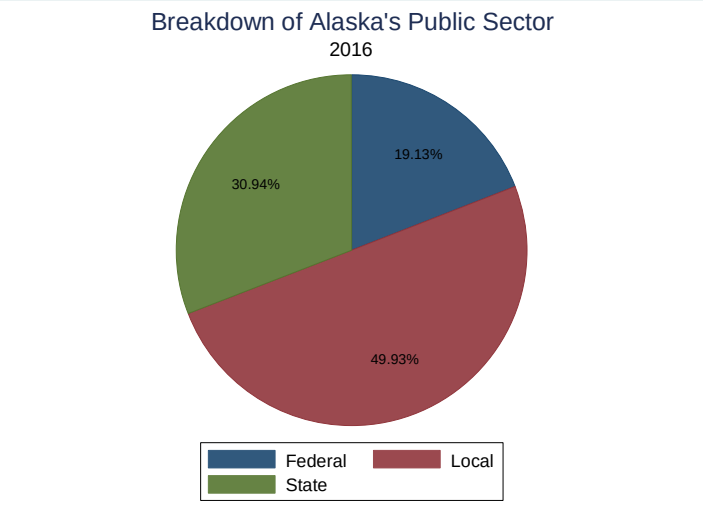


What about wages?



What does Alaska's economic breakdown look like?





What do we know about the current economic situation?

- We are in the middle of the second year of the recession.
- The contraction has spread from Oil and Gas, Construction, and Government to the rest of the economy in this last year.
- Most boroughs and census areas are feeling the squeeze.

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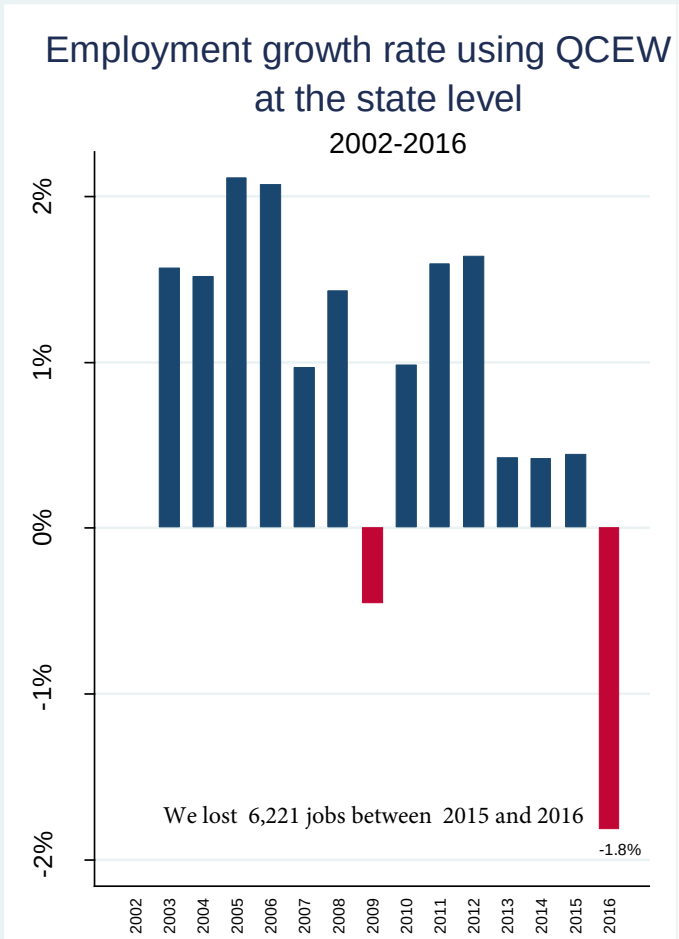
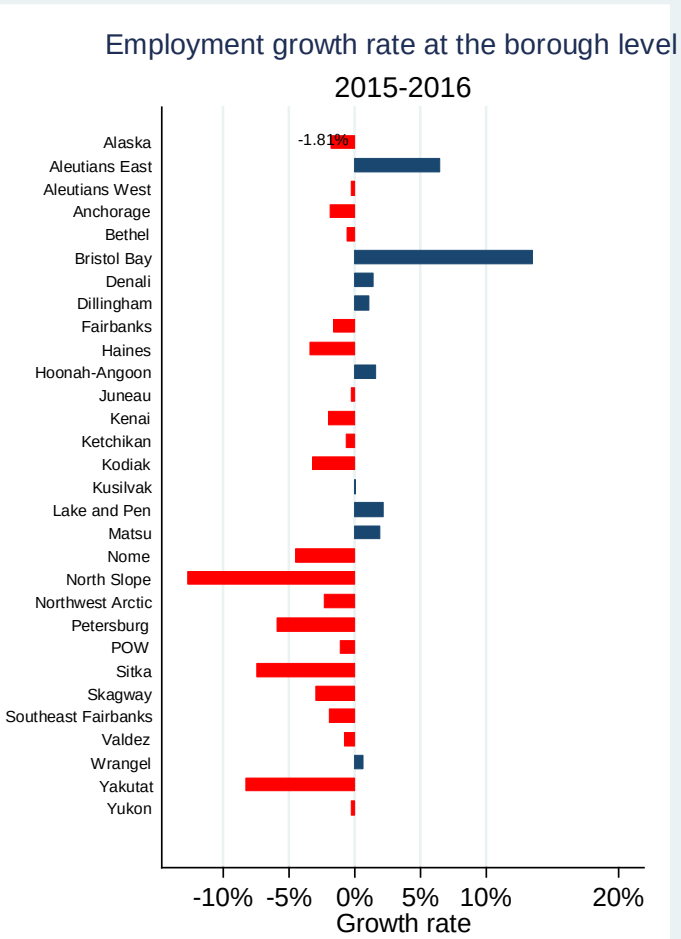
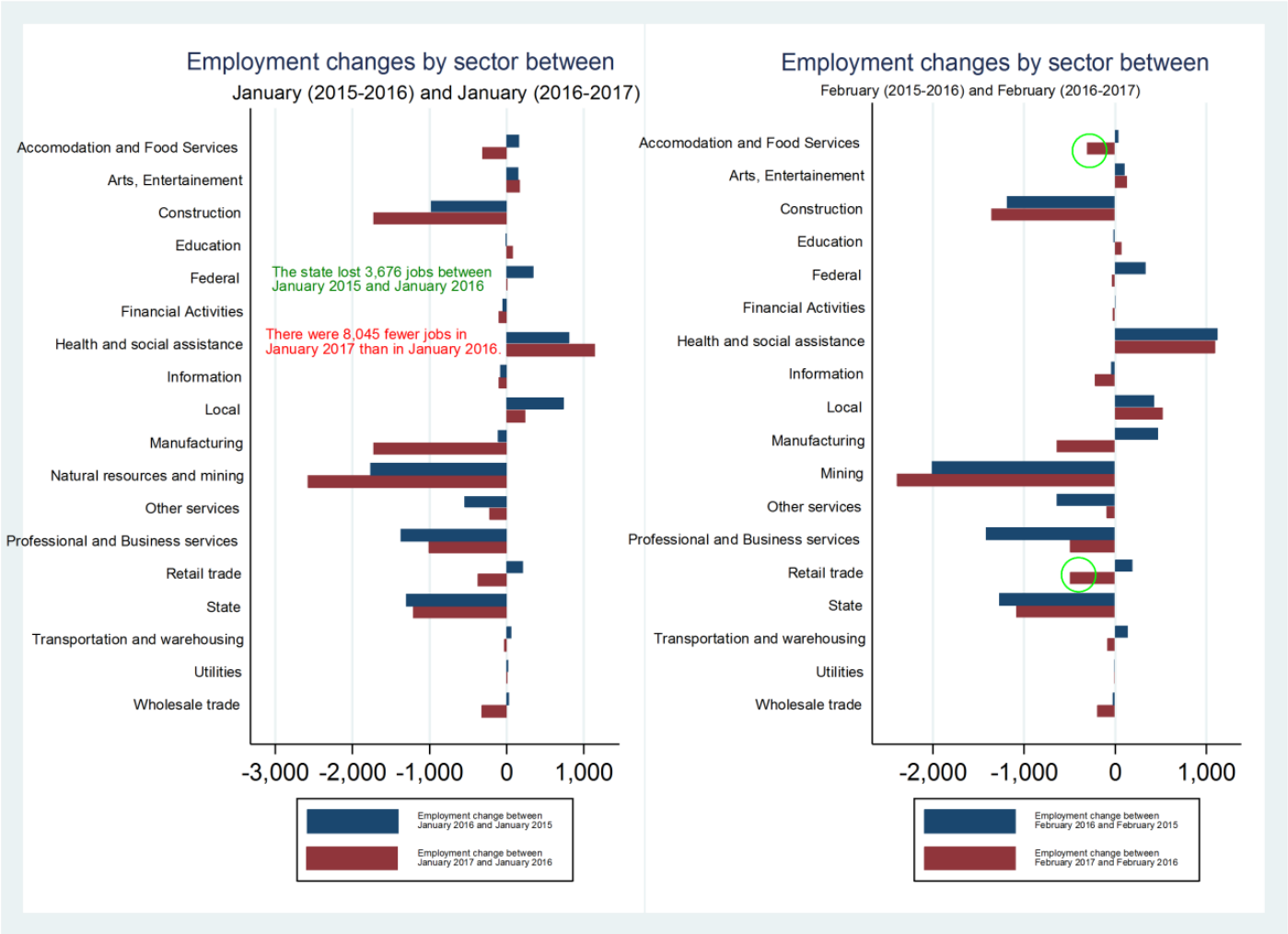
Basic picture: Economic contraction



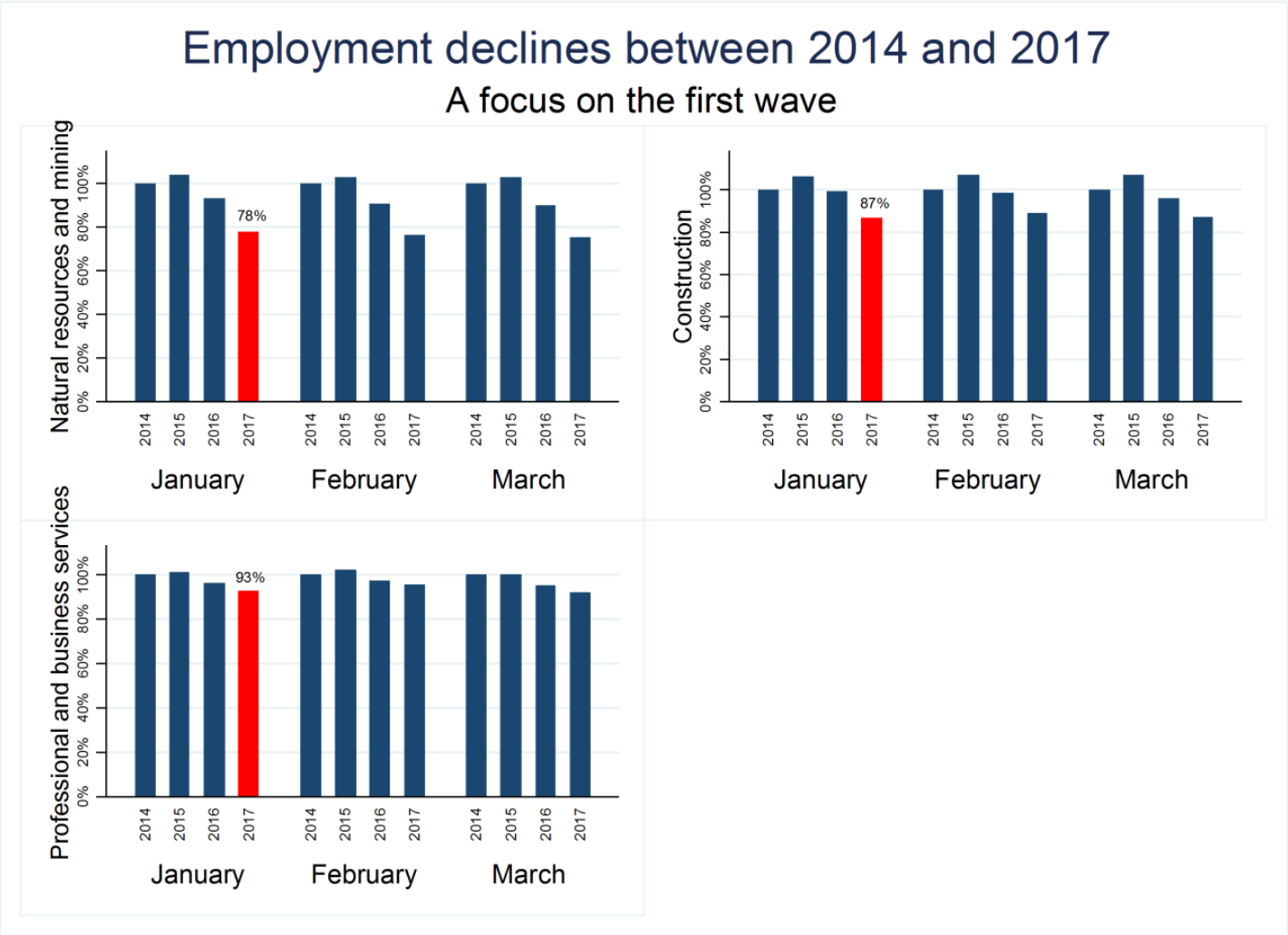


Inside the numbers



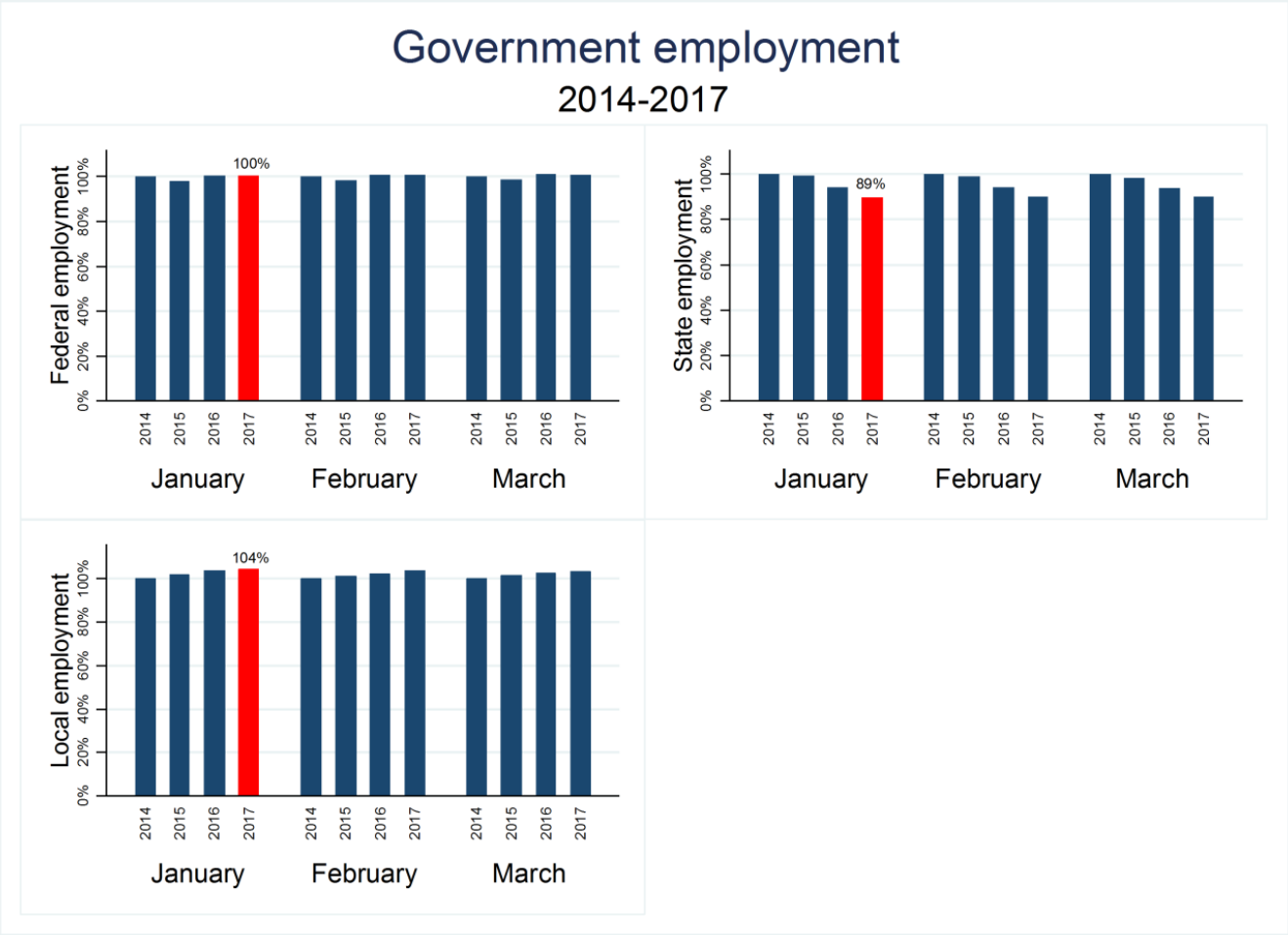
Outline

How are the hardest hit sectors doing relative to 2014?



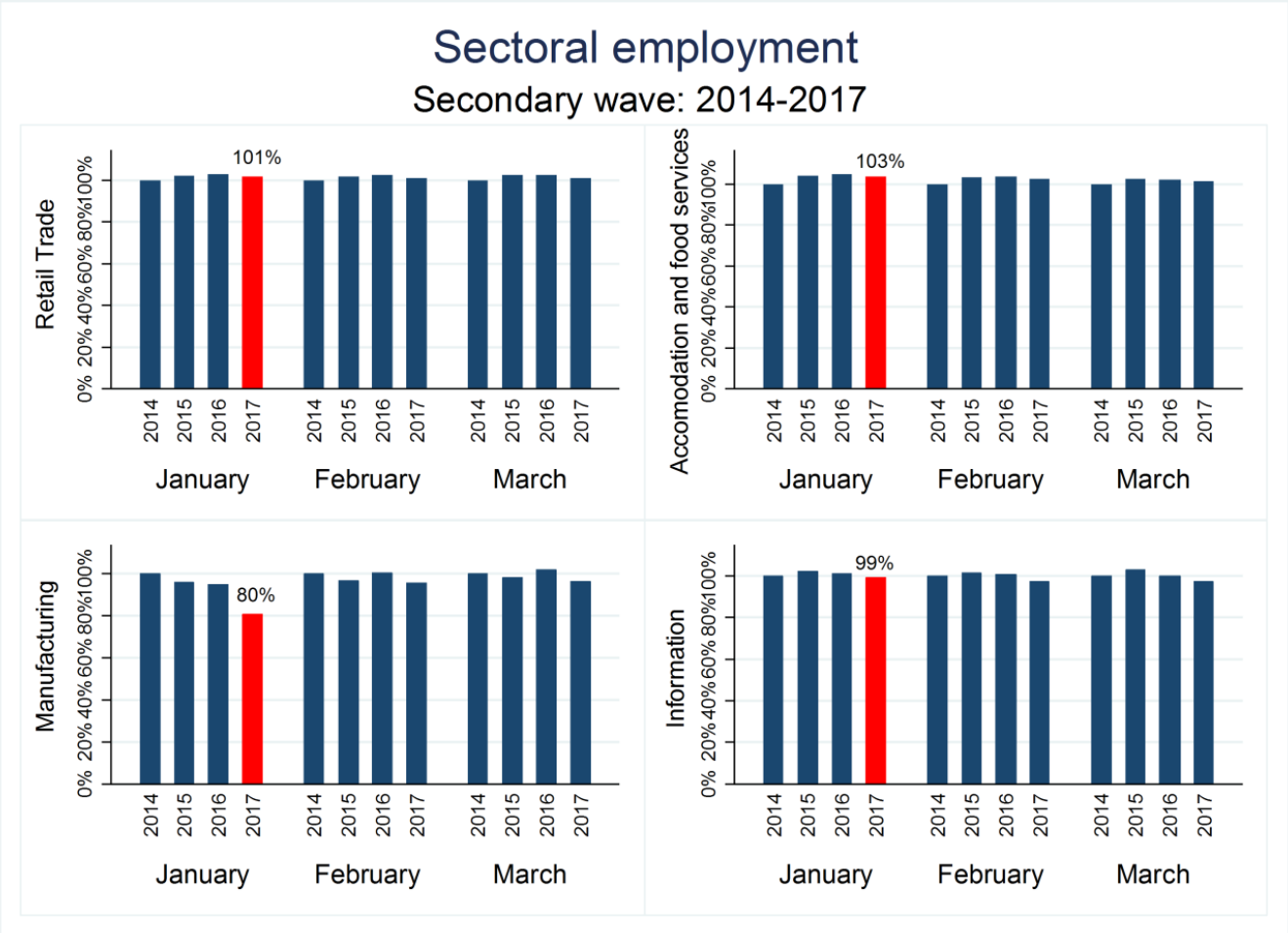
Outline

How is Government doing relative to 2014?

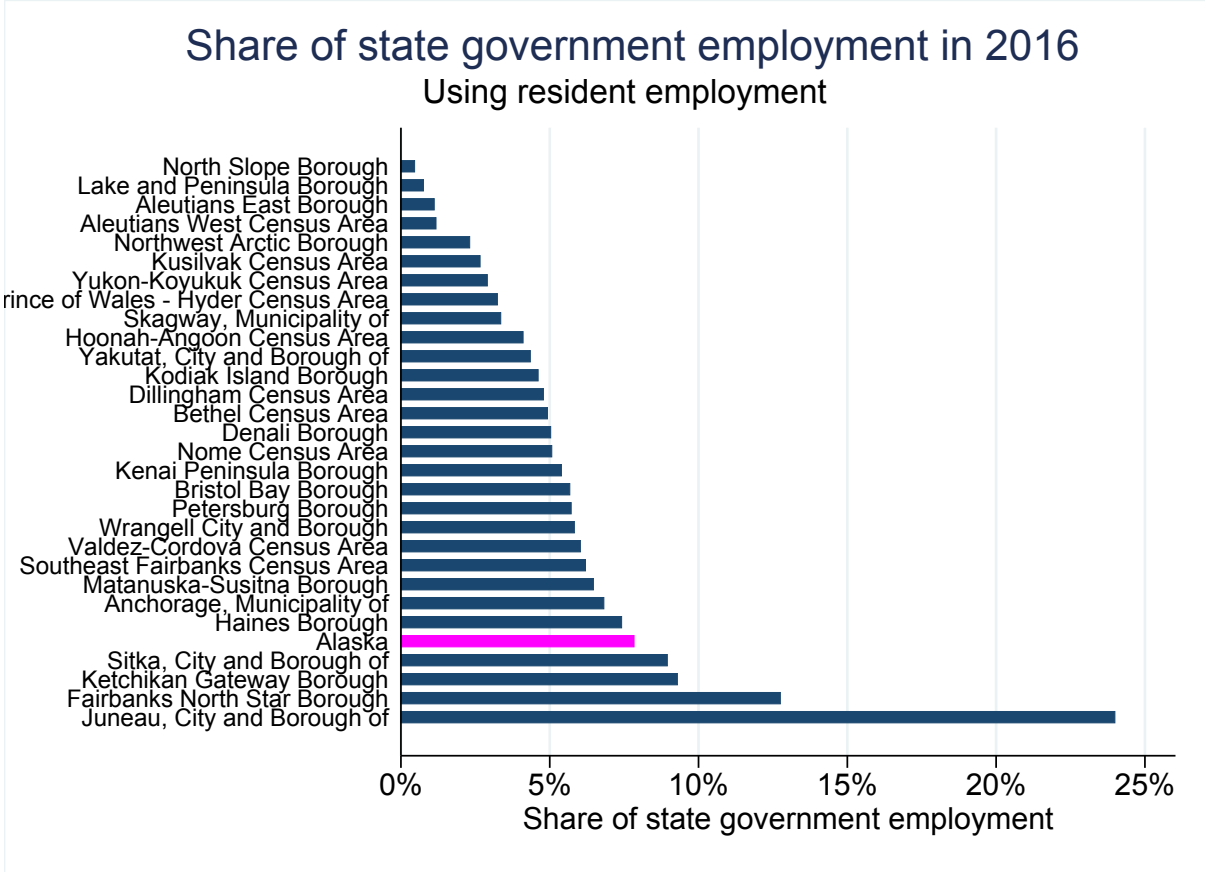


Outline

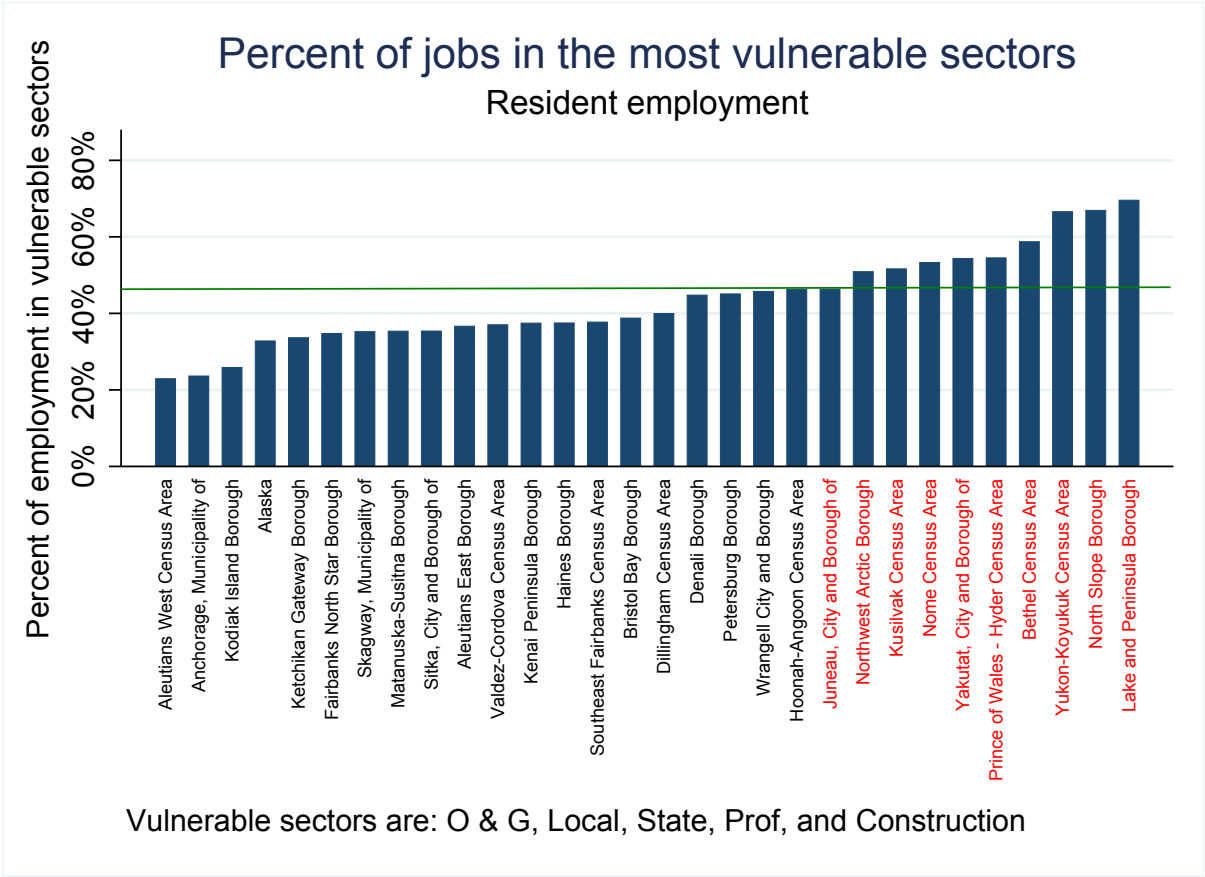
How are spending dependent sectors doing relative to 2014?



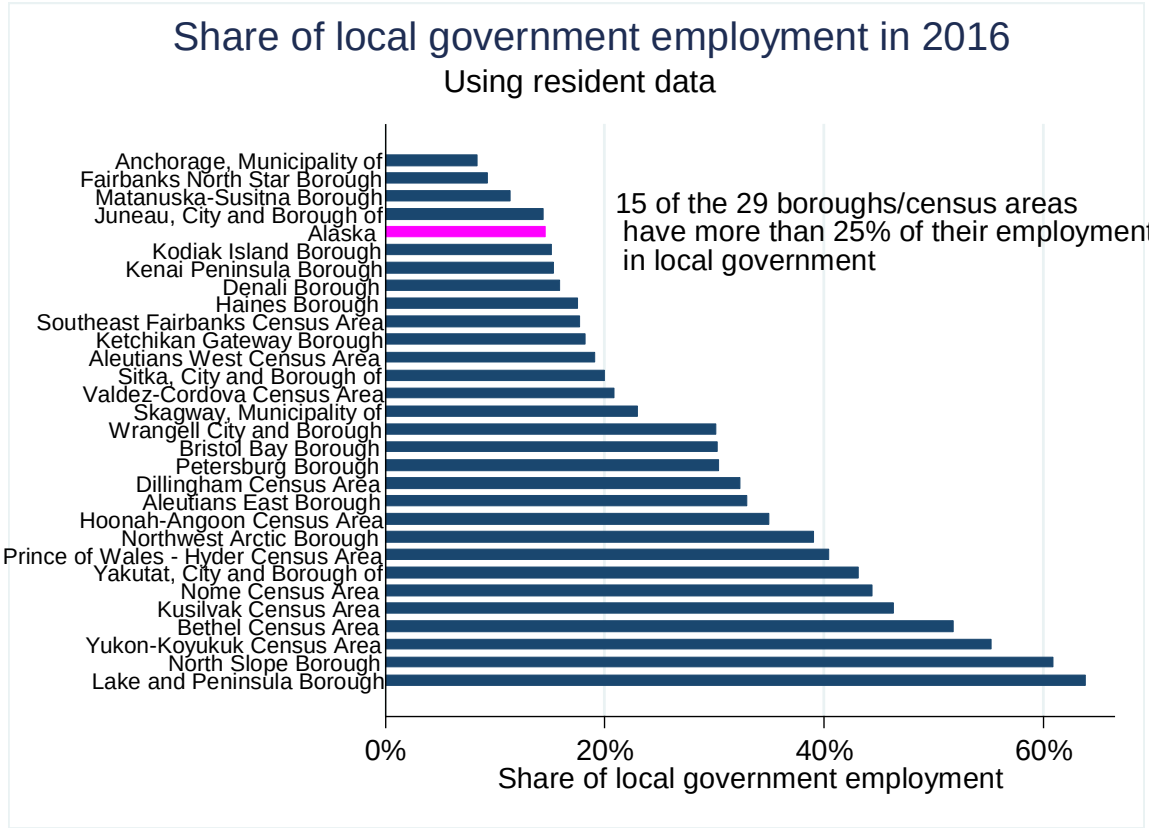
State government



Relative vulnerability



Local government



Can localities replace state dollars?

Borough name	State dollars	Number of residents	Tax amount per person
Anchorage	74,331,607	298,666	248
Aleutians East Borough	1,040,664	3,047	342
Borough of Juneau	36,574,789	33,277	1,099
Bristol Bay Borough	4,323,620	887	4,874
Borough of Sitka	15,088,635	8,929	1,690
Borough of Wrangell	2,819,638	2,442	1,155
Borough of Yakutat	1,321,017	613	2,155
Denali Borough	844,961	1,781	474
Fairbanks North Star Borough	27,470,931	98,645	278
Haines Borough	4,355,440	2,493	1,747
Kenai Peninsula Borough	21,704,735	57,763	376
Ketchikan Gateway Borough	4,154,678	13,778	302
Kodiak Island Borough	10,332,739	13,819	748
Lake and Peninsula Borough	3,300,079	1,668	1,978
Matanuska-Susitna Borough	33,277,044	100,178	332
North Slope Borough		10,420	
Northwest Arctic Borough	17,892,275	7,889	2,268
Skagway		1,039	
Petersburg Borough			

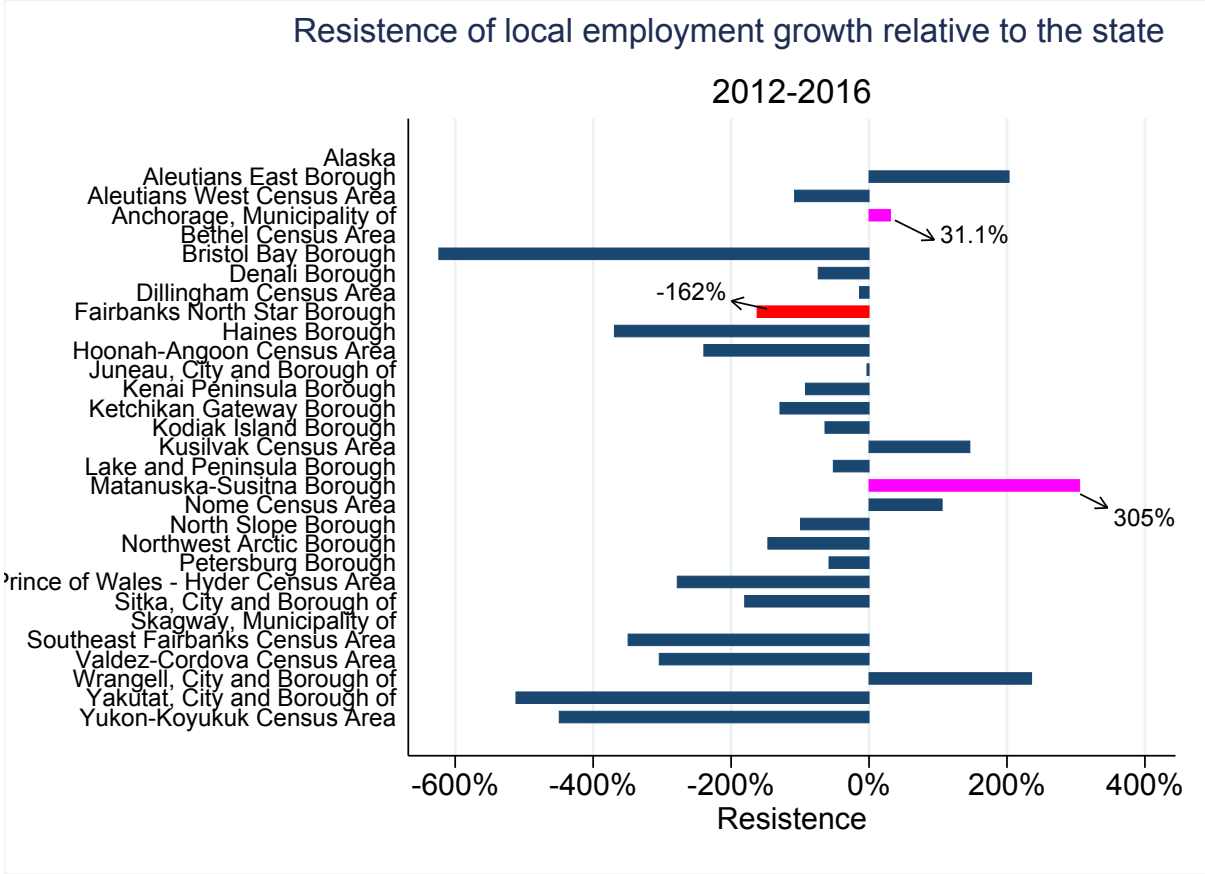
How resilient are different boroughs to the state economic decline?

- Since of interest is how different regions (or localities or cities) are affected by a common recession, a particular type of expected or 'counterfactual" reaction suggests itself, namely, the resistance of the state economy.

$$(\Delta E_r^{(t+k)})^e = \sum_i (g_N)^{(t+k)} E_{ir}^t \rightarrow \text{this develops a counterfactual} \tag{1}$$

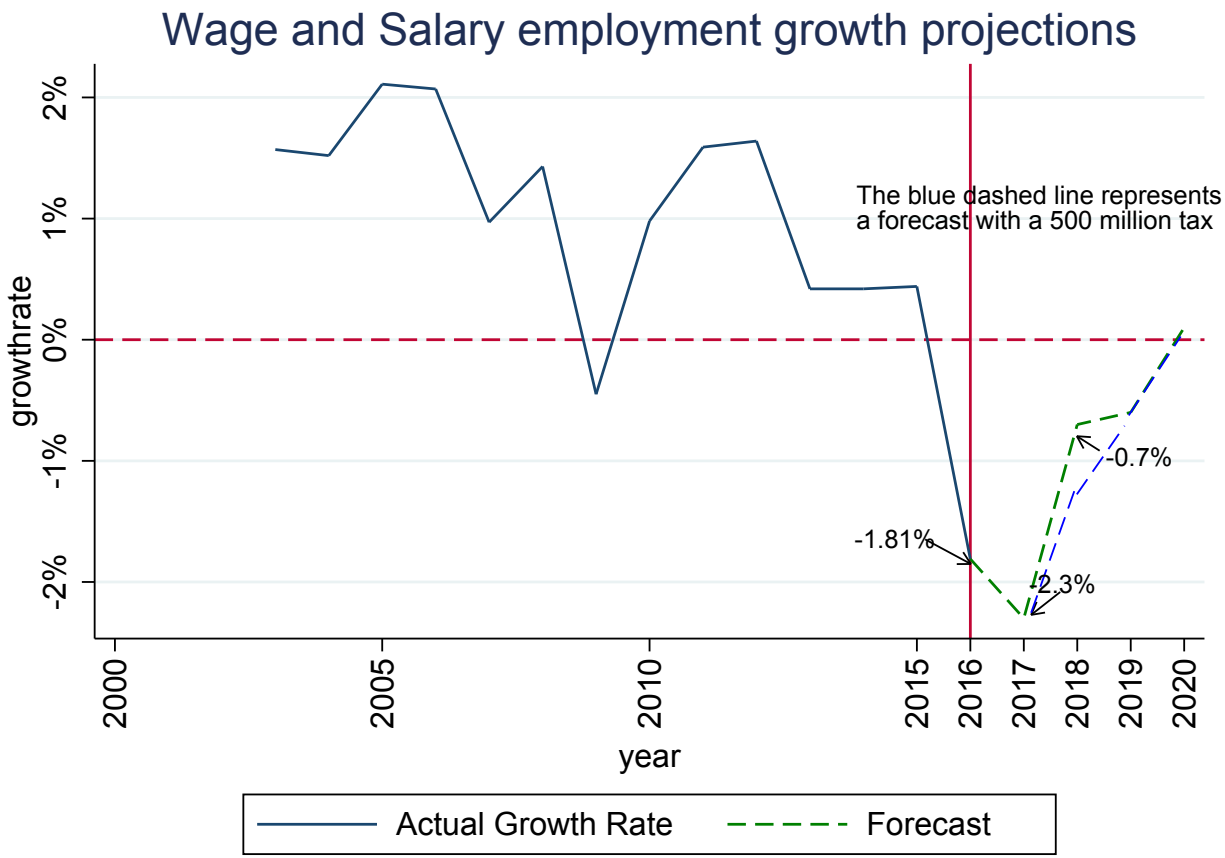
$$Resis_r = (\Delta E_r^{(contraction)} - (\Delta E_r^{(Contraction)^(expected)}) / \mid (\Delta E_r^{(Contraction)^(expected)}) \mid \tag{2}$$

Resilience

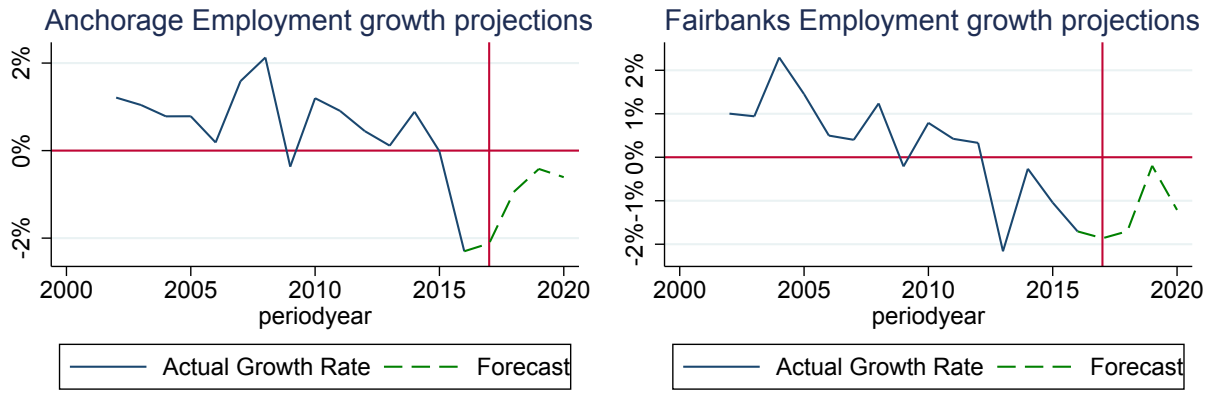

Resistence of local employment growth relative to the state
2012-2016
Alaska
Aleutians East Borough
Aleutians West Census Area
Anchorage, Municipality of
Bethel Census Area
Bristol Bay Borough
Denali Borough
Dillingham Census Area
Fairbanks North Star Borough
Haines Borough
Hoonah-Angoon Census Area
Juneau, City and Borough of
Kenai Peninsula Borough
Ketchikan Gateway Borough
Kodiak Island Borough
Kusilvak Census Area
Lake and Peninsula Borough
Matanuska-Susitna Borough
Nome Census Area
North Slope Borough
Northwest Arctic Borough
Petersburg Borough
Prince of Wales - Hyder Census Area
Sitka, City and Borough of
Skagway, Municipality of
Southeast Fairbanks Census Area
Valdez-Cordova Census Area
Wrangell, City and Borough of
Yakutat, City and Borough of
Yukon-Koyukuk Census Area
31.1%
-162%
305%
-600%
-400%
-200%
0%
200%
400%
Resistence

Outline

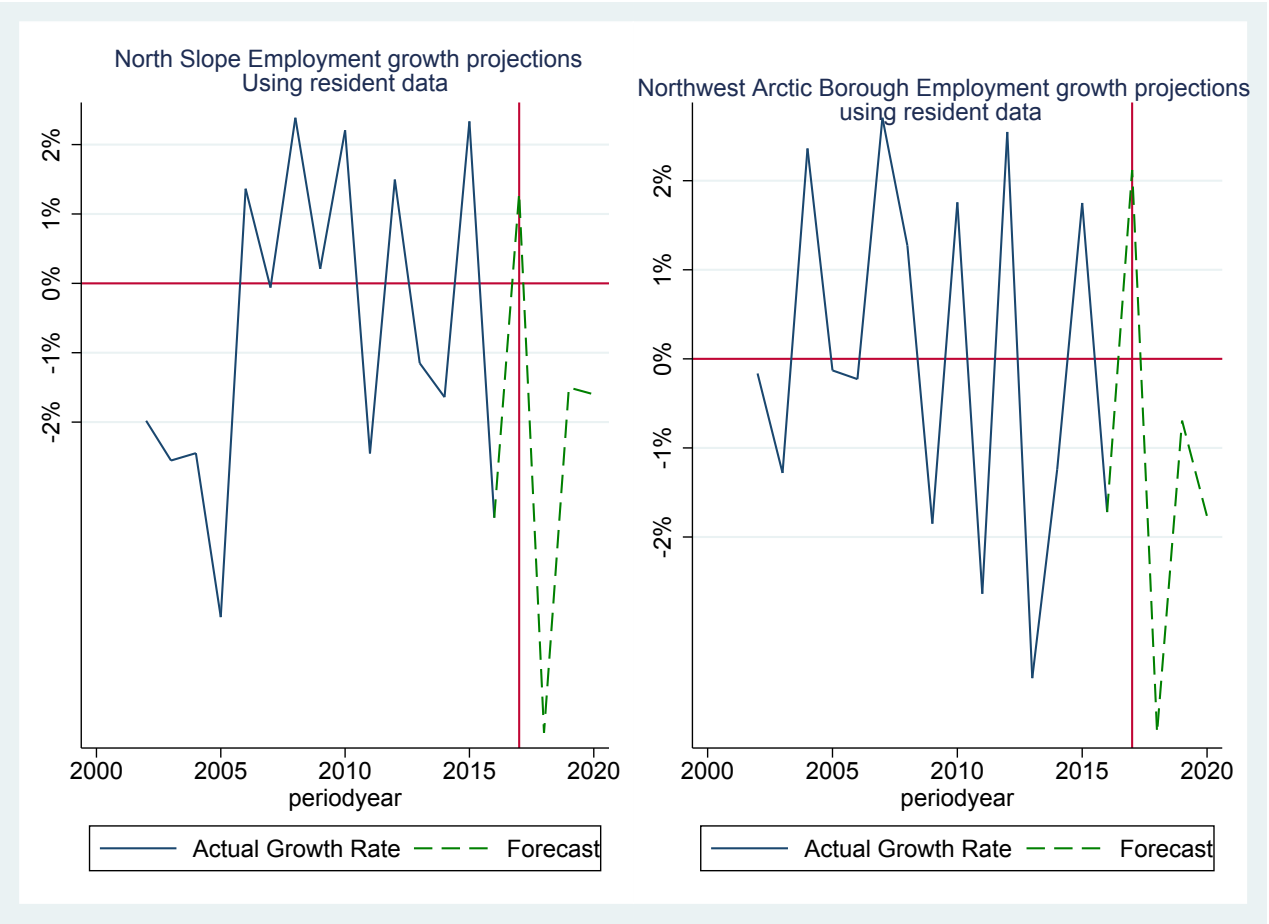
Preliminary projections



Anchorage, Fairbanks, Matsu, and Juneau



Far north


North Slope Employment growth projections
Using resident data
2%
1%
0%
-1%
-2%
2000
2005
2010
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2020
periodyear
Actual Growth Rate
Forecast
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Actual Growth Rate
Forecast

Does the economic literature address uncertainty?

- Baker, Bloom, and Davis (2013) construct a novel index of economic policy based on a diverse array of metrics, performing tests of the index's validity through a human audit of 3,500 newspaper sources and other common-sense measures.
- They find that the increase in policy uncertainty that followed the onset of the Great Recession had significant negative effects on aggregate investment and on employment as well as on consumption expenditures.

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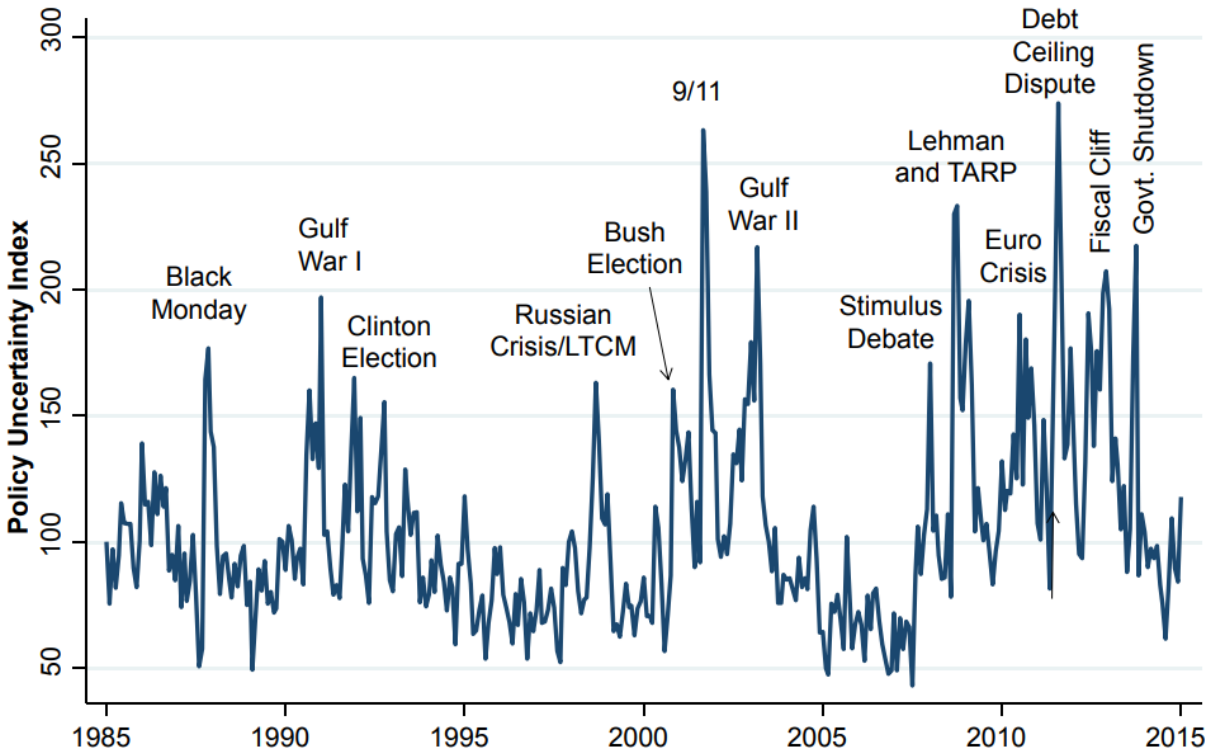
Anything interesting?

- Matching firm-level data with the data series of this index, Gulen and Ion (2013) find that economic policy uncertainty can explain up to 32% of the drop in corporate investment over the 2007-2009 time period.

Index in pictures

Figure 1: Economic Policy Uncertainty Index for the US, 1985 to 2014



Notes: Index reflects scaled monthly counts of articles containing 'uncertain' or 'uncertainty', 'economic' or 'economy', and one or more policy relevant terms: 'regulation', 'federal reserve', 'deficit', 'congress', 'legislation', or 'white house'. The series is normalized to mean 100 from 1985-2009 and based on queries run on 2 February, 2015 for the USA Today, Miami Herald, Chicago Tribune, Washington Post, LA Times, Boston Globe, SF Chronicle, Dallas Morning News, NY Times, and the Wall Street Journal.

What about uncertainty at the state level?

- Gao and Qi (2012) find that municipal bonds issued by state governments immediately before a gubernatorial election pay a premium of 6 to 8 basis points due to this electoral proximity.
- Jens (2013) estimates the investment-suppressing effect of a gubernatorial election on the state-level investment during the quarter of the election at between 5% and 15% depending on the subsample, with the closeness of an election exacerbating the decline.

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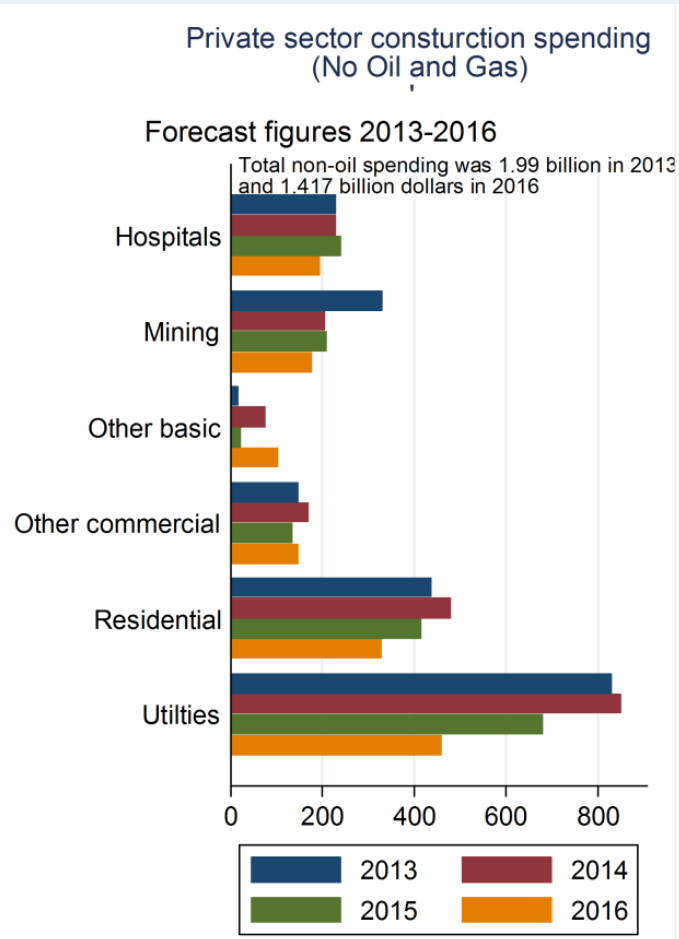
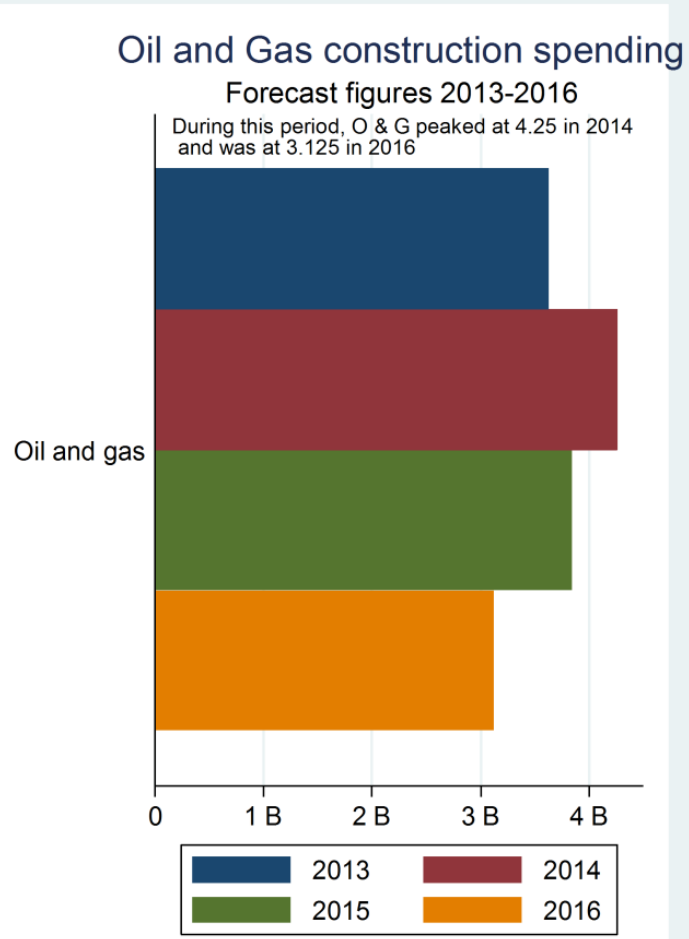
Let's talk about Alaska's Investments





Construction spending in billions

		2012	2013	2014	2015	2016	2017
Private							
	Oil and gas	3.152	3.638	4.255	3.84	3.125	2.43
	Mining	0.34	0.33	0.205	0.21	0.18	0.187
	Other basic	0.01	0.02	0.076	0.025	0.104	0.13
	Utilities	0.794	0.83	0.851	0.68	0.459	0.498
	Hospitals	0.325	0.229	0.23	0.24	0.195	0.336
	Other commercial	0.12	0.15	0.17	0.135	0.15	0.15
	Residential	0.4	0.44	0.48	0.415	0.329	0.277
Public							
	National defense	0.46	0.209	0.395	0.435	0.552	0.635
	Highways	0.585	0.824	0.765	0.755	0.705	0.629
	Airports	0.375	0.479	0.425	0.465	0.387	0.37
	Alaska railroad	0.055	0.024	0.023	0.025	0.026	0.022
	Denali	0.02	0.013	0.009	0.01	0.01	0
	Education	0.408	0.497	0.477	0.465	0.406	0.212
	Other federal	0.207	0.245	0.3	0.255	0.253	0.255
	Other state	0.474	0.45	0.515	0.555	0.422	0.322
		7.725	*8.378*	*9.176*	*8.51*	*7.303*	*6.453*

How much is uncertainty costing Alaska?

- Private Construction spending in 2017 is supposed to be around 4 billion dollars.
- Using the 5 to 15% estimated by (Jens 2013), we would conclude that the direct effects of policy uncertainty is costing the state somewhere between 200 and 600 million in private capital spending.

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Output Multiplier of these reductions

Code	***Sector Description***	***Multiplier***
52	Construction of new health care structures	1.91
53	Construction of new manufacturing structures	1.93
54	Construction of new power and communication structures	2.00
55	Construction of new educational and vocational structures	1.94
56	Construction of new highways and streets	2.07
57	Construction of new commercial structures, including farm structures	1.95
58	Construction of other new nonresidential structures	2.03
59	Construction of new single-family residential structures	2.10
60	Construction of new multifamily residential structures	2.19
61	Construction of other new residential structures	2.15
62	Maintenance and repair construction of nonresidential structures	2.07
63	Maintenance and repair construction of residential structures	2.12
64	Maintenance and repair construction of highways, streets, bridges, and tunnels	2.17

How many jobs is uncertainty costing the state?

- Every 100 million dollars of private construction generates somewhere between 750 and 1200 jobs.
- What does this tell us about the legislature's decisions?

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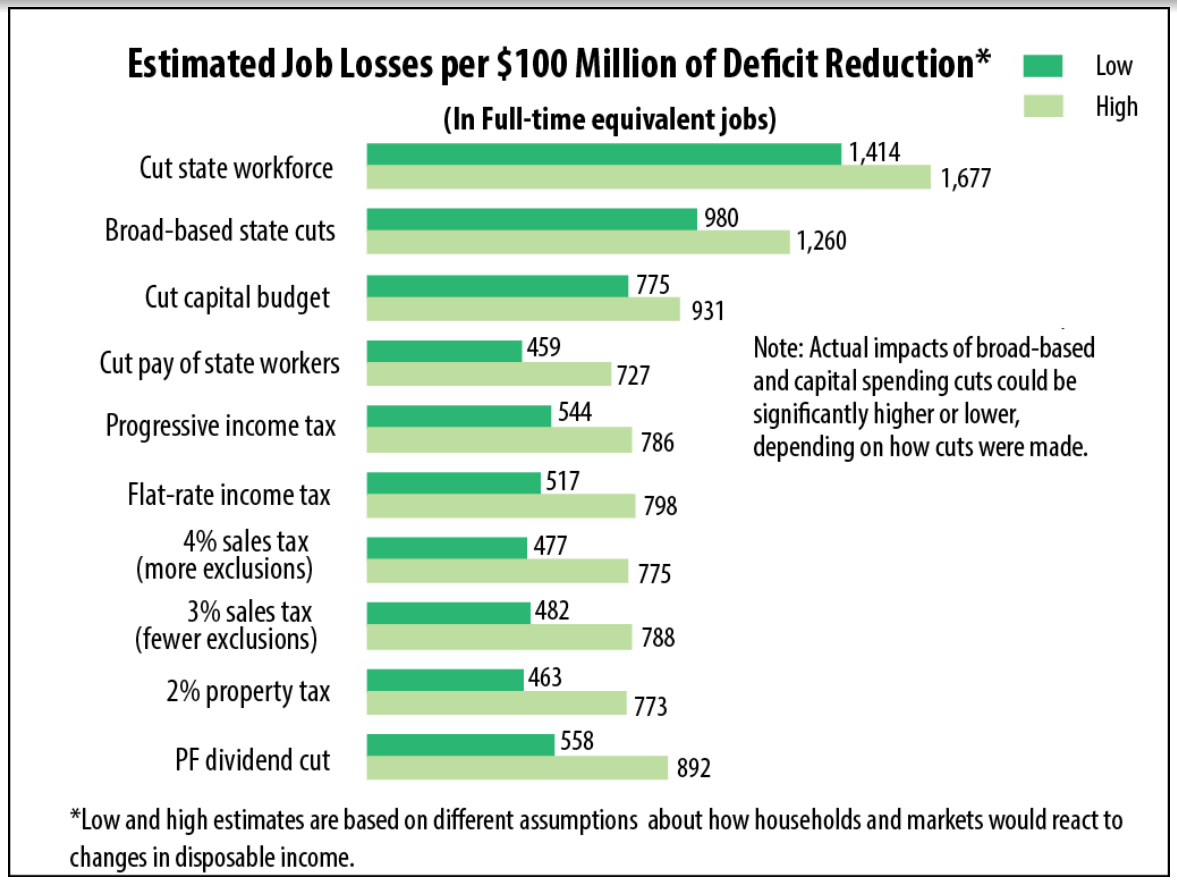
How does uncertainty compare with other deficit reduction measures?



Are there gains to waiting?

- The answer is no because uncertainty costs around the same number of jobs as revenue generating measures in the short run.
- In the long run, uncertainty can have structural implications as it affects the extensive as well as the intensive margin.

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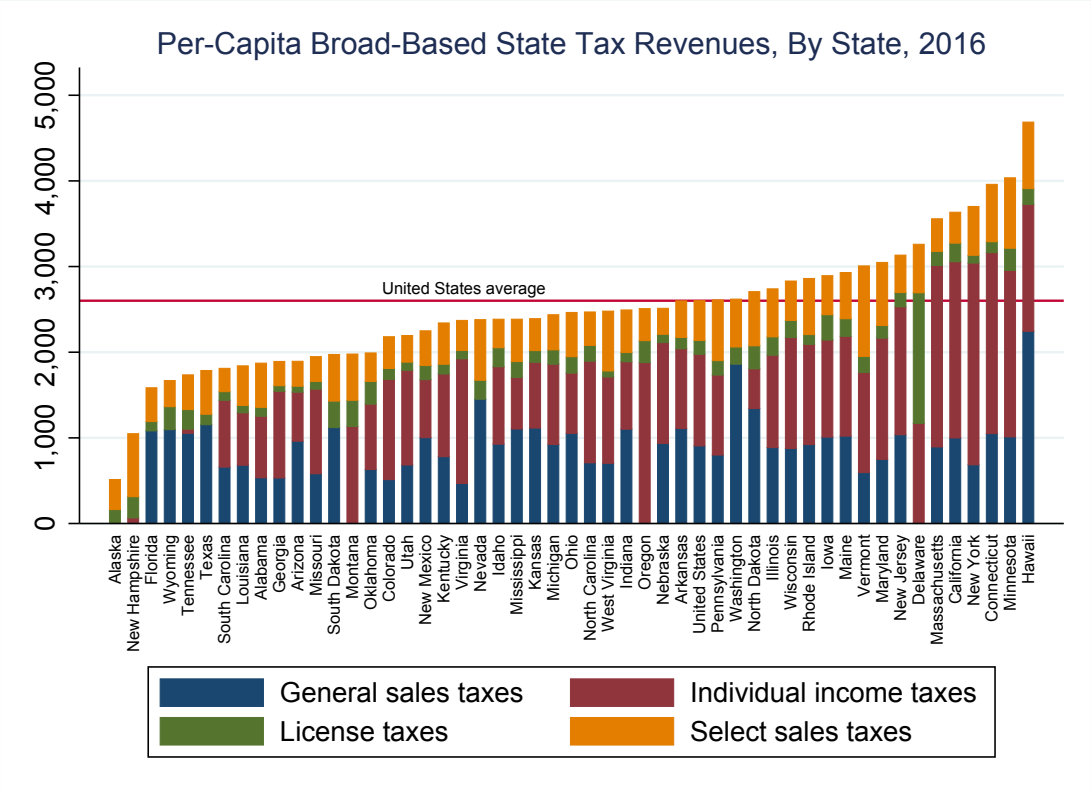
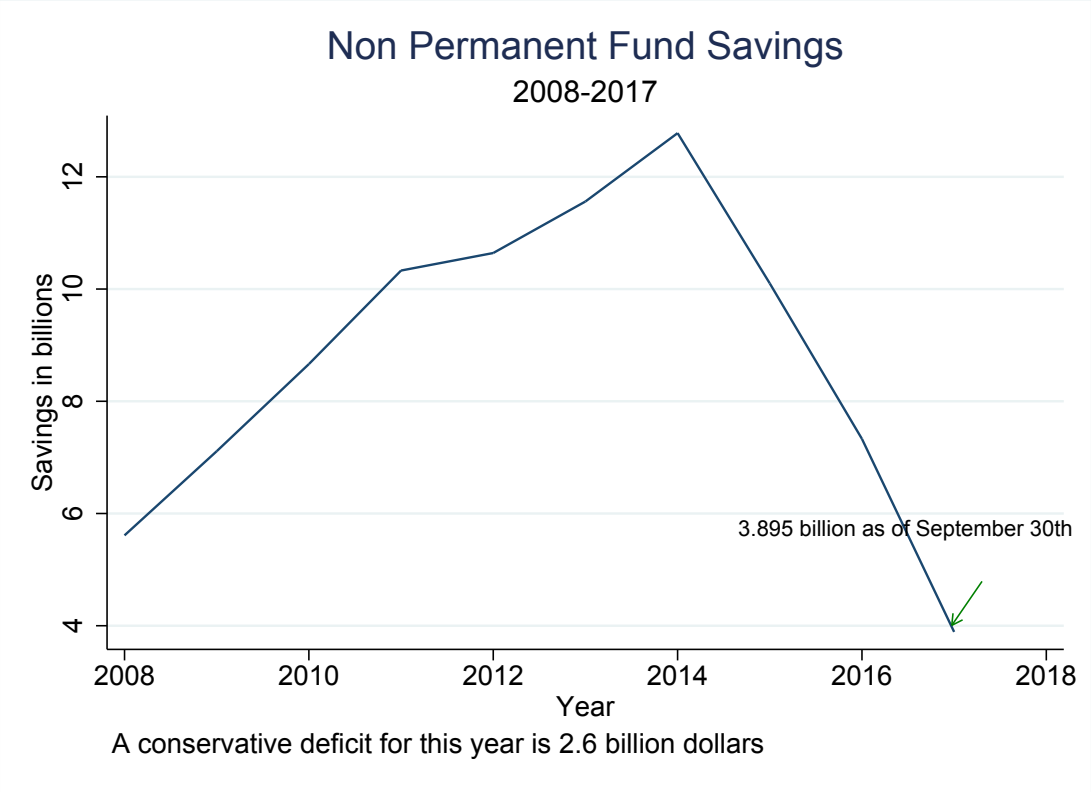
How does Alaska compare in terms of taxes?



Non Permanent Fund Savings



What does this tell us?

- Non-permanent fund savings are exhausted.
- Structured use the of the permanent fund coupled with a tax shrinks the gap considerably.
- The economy in 2018 will be in a much better position to absorb the tax.
- The decline in investment due to uncertainty is of similar magnitude to the declines in activity due to taxes. Waiting, therefore, provides no value to the state.

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